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ABSTRACT OF THE DISCLOSURE

An ultrasonic motor constructed so as to have improved driving force, reduced vibrational loss and smaller dimensions as compared with the conventional art. A piezoelectric vibrator generates a vibrational driving force in response to a received drive signal. A drive signal generator generates the drive signal. The drive signal is transmitted along leads to support members. The support members support, and are in electrical connection with, the piezoelectric vibrator on the substrate. Thus, the support member is effective for both supporting the piezoelectric member and for transmitting the drive signal from the drive signal generator to the piezoelectric vibrator. A moving member is in communication with the piezoelectric vibrator and moves in response to the vibrational driving force. The support member may be comprised of an elastic material so that it is effective for urging the piezoelectric vibrator against the moving member. This increases the frictional relationship between the moving member and the vibrational driving force, thereby increasing the output driving force. The support member may include a relatively thinner constriction portion and a relatively thicker connection portion, the constriction portion being effective for decreasing vibration losses. The support member may also be incorporated as part of the substrate, wherein the substrate includes a recess portion effective for receiving the piezoelectric vibrator to reduce

thickness. To further reduce the overall dimensions of the inventive ultrasonic motor, the electrically conductive support member may be part of a drive circuit for generating the drive signal. Also, the support member may be configured for supporting the piezoelectric vibrator at a flex vibration node of the piezoelectric vibrator to reduce vibrational loss.